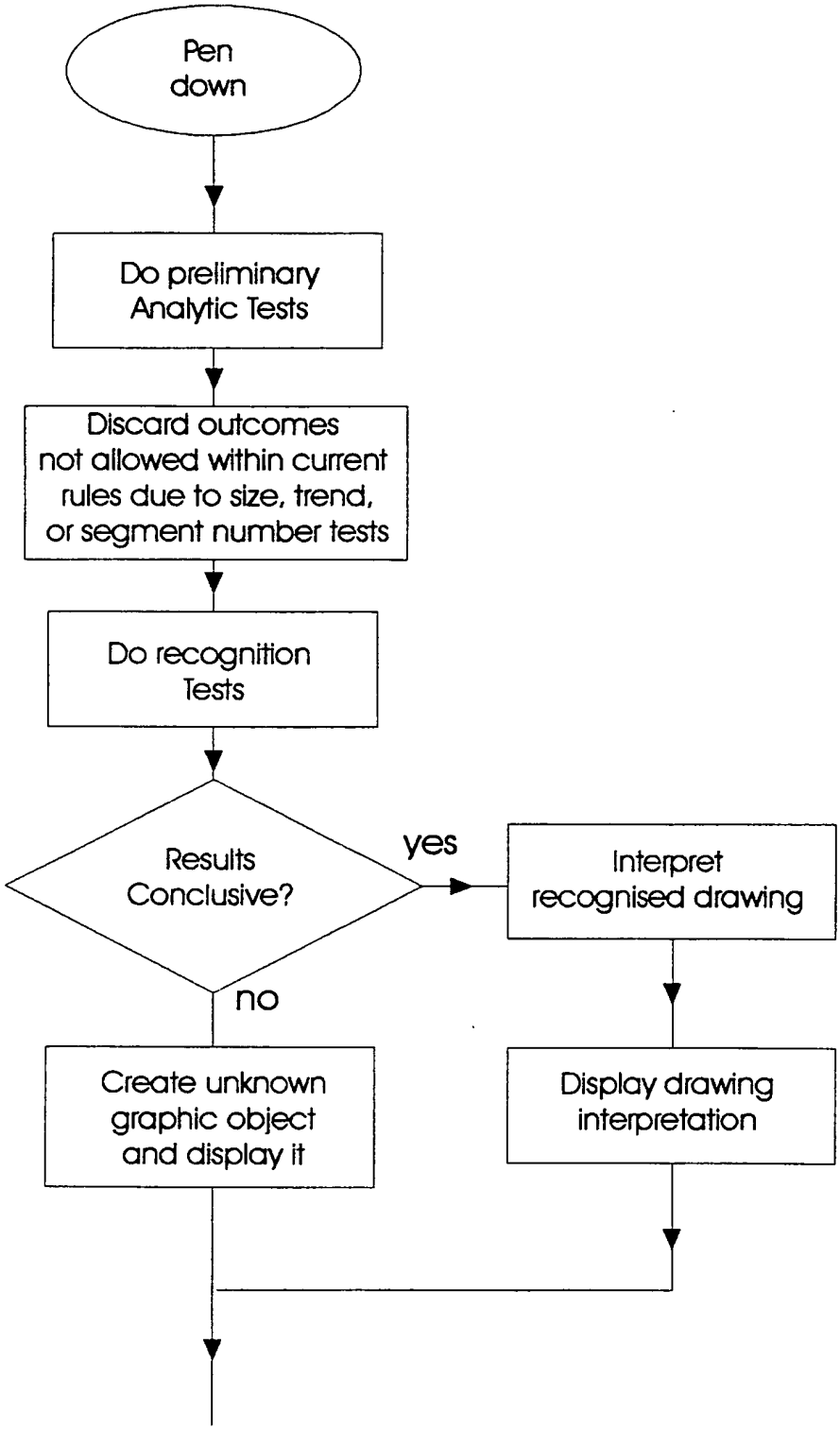
Pen down
Do preliminary Analytic Tests
Discard outcomes not allowed within current rules due to size, trend, or segment number tests
Do recognition Tests
Results Conclusive?
yes
Interpret recognised drawing
no
Create unknown graphic object and display it
Display drawing interpretation

FIG. 1

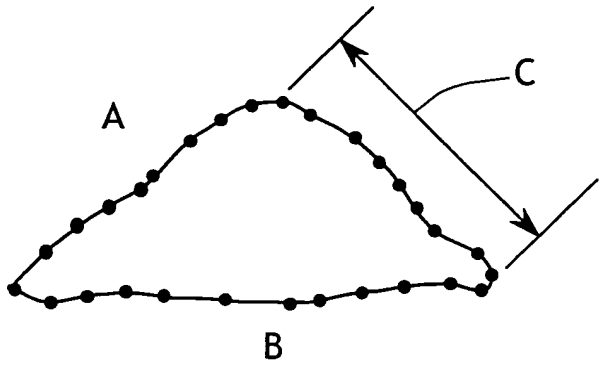

FIG. 2

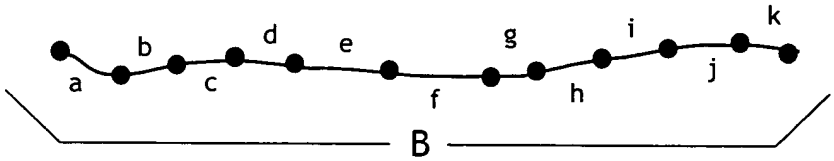

FIG. 3

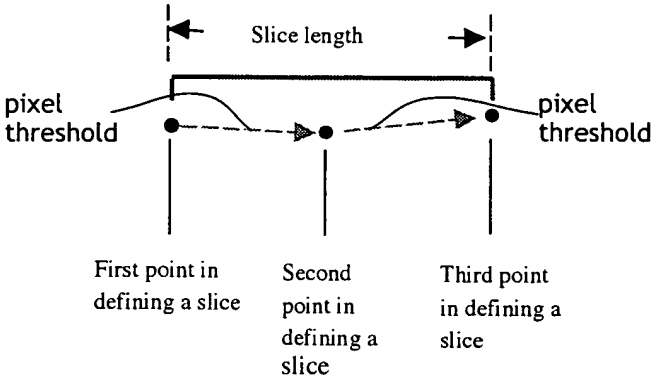

FIG. 4

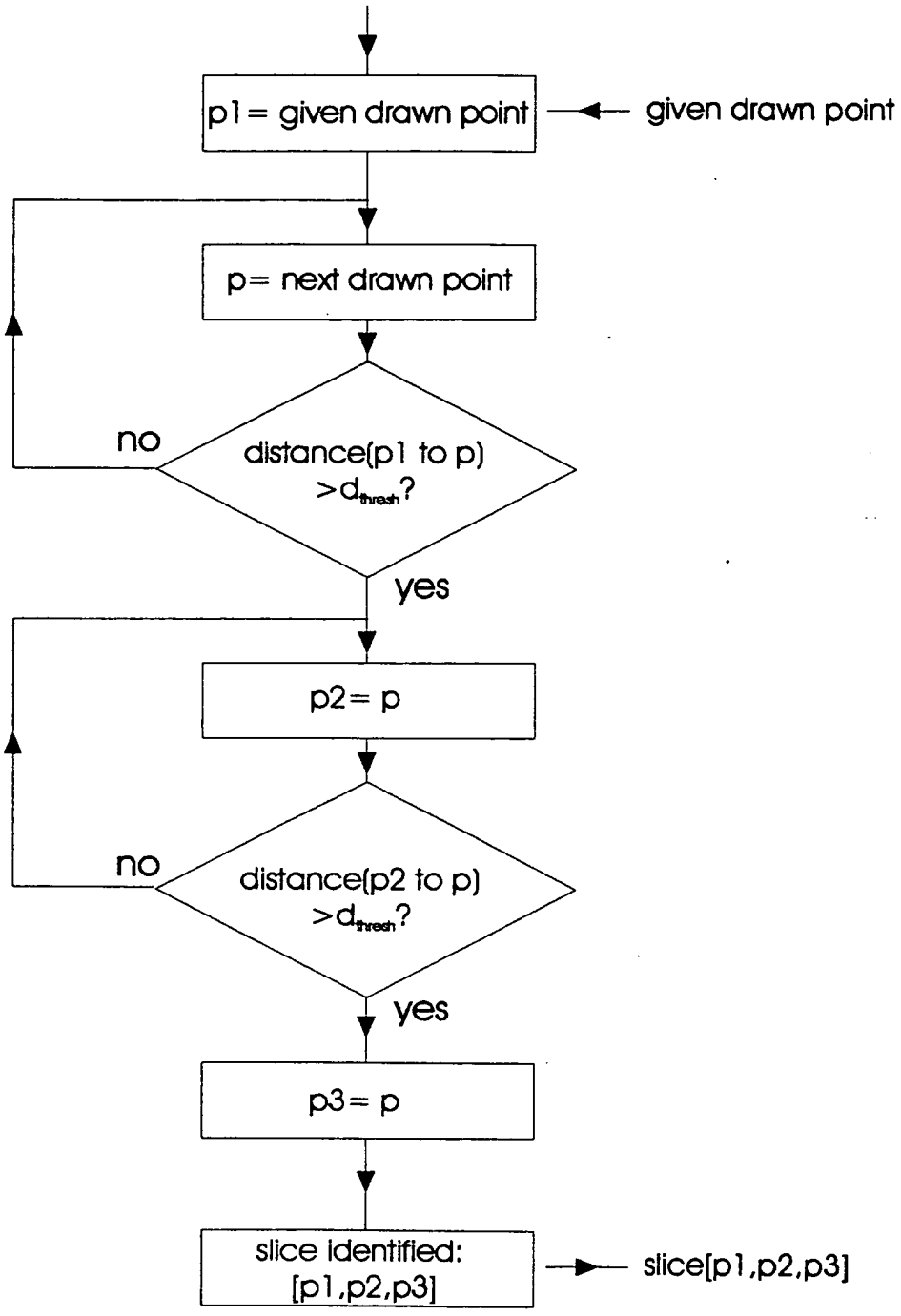
p1 = given drawn point
given drawn point
p= next drawn point
no
distance(p1 to p)
>d_thresh?
yes
p2= p
no
distance(p2 to p)
>d_thresh?
yes
p3= p
slice identified:
[p1,p2,p3]
slice[p1,p2,p3]

FIG. 5

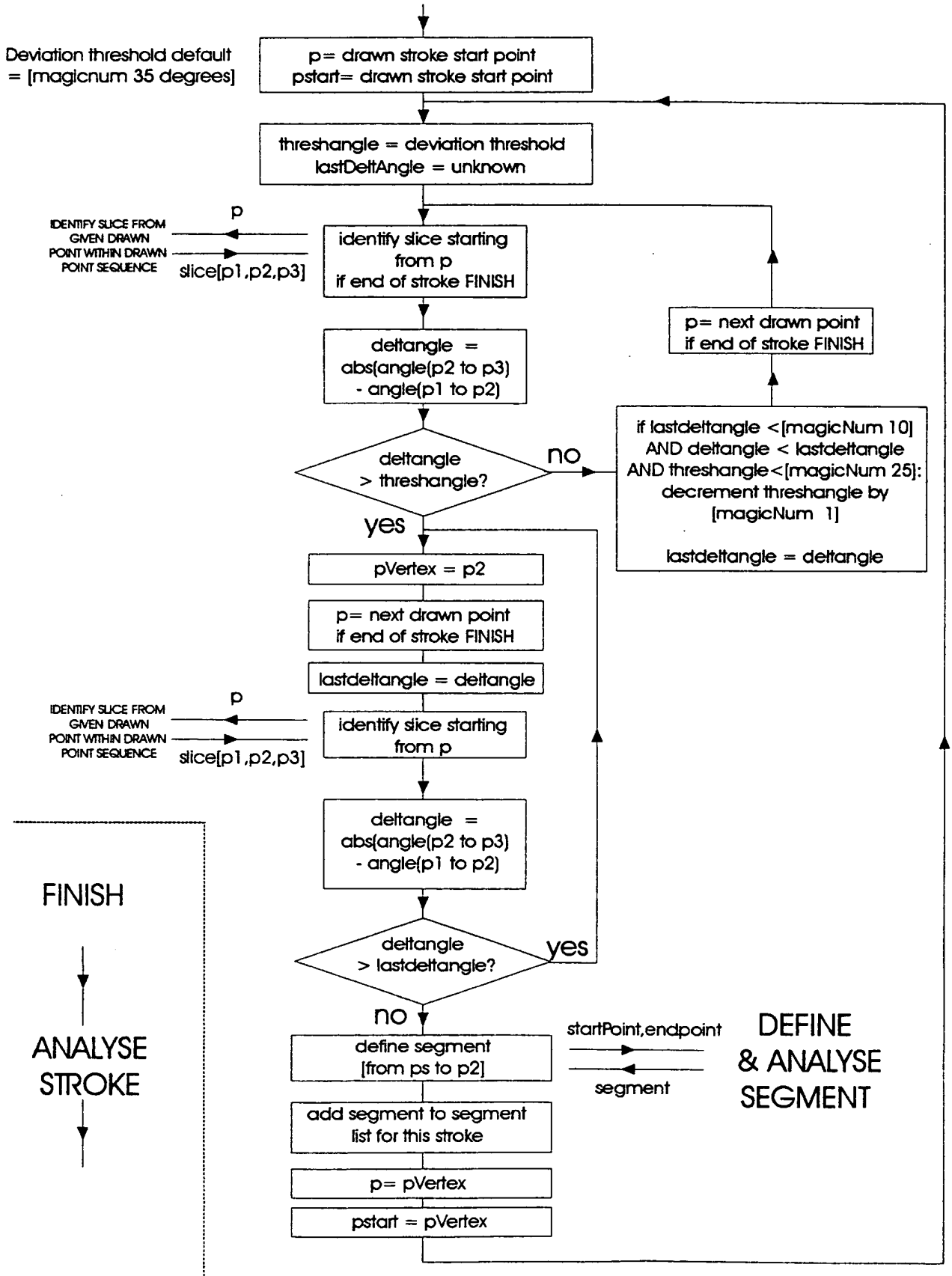
Deviation threshold default
= [magicnum 35 degrees]
p= drawn stroke start point
pstart= drawn stroke start point
threshangle = deviation threshold
lastDeltAngle = unknown
IDENTIFY SLICE FROM GIVEN DRAWN POINT WITHIN DRAWN POINT SEQUENCE
p
slice[p1,p2,p3]
identify slice starting from p
if end of stroke FINISH
deltangle = abs(angle(p2 to p3) - angle(p1 to p2)
deltangle > threshangle?
no
yes
if lastdeltangle <[magicNum 10] AND deltangle < lastdeltangle AND threshangle<[magicNum 25]: decrement threshangle by [magicNum 1]
lastdeltangle = deltangle
p= next drawn point if end of stroke FINISH
pVertex = p2
p= next drawn point if end of stroke FINISH
lastdeltangle = deltangle
IDENTIFY SLICE FROM GIVEN DRAWN POINT WITHIN DRAWN POINT SEQUENCE
p
slice[p1,p2,p3]
identify slice starting from p
deltangle = abs(angle(p2 to p3) - angle(p1 to p2)
deltangle > lastdeltangle?
yes
no
define segment [from ps to p2]
startPoint,endpoint
segment
add segment to segment list for this stroke
p= pVertex
pstart = pVertex
FINISH
ANALYSE STROKE
DEFINE & ANALYSE SEGMENT

FIG. 6A

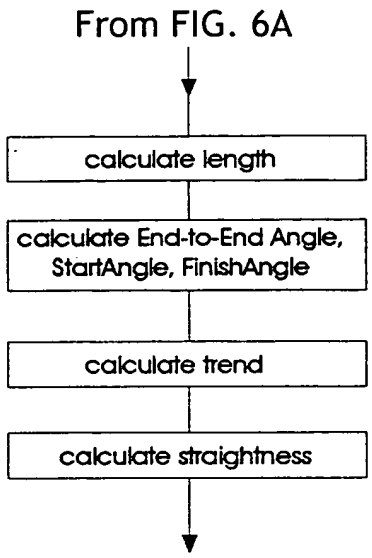
From FIG. 6A
calculate length
calculate End-to-End Angle, StartAngle, FinishAngle
calculate trend
calculate straightness

FIG. 6B

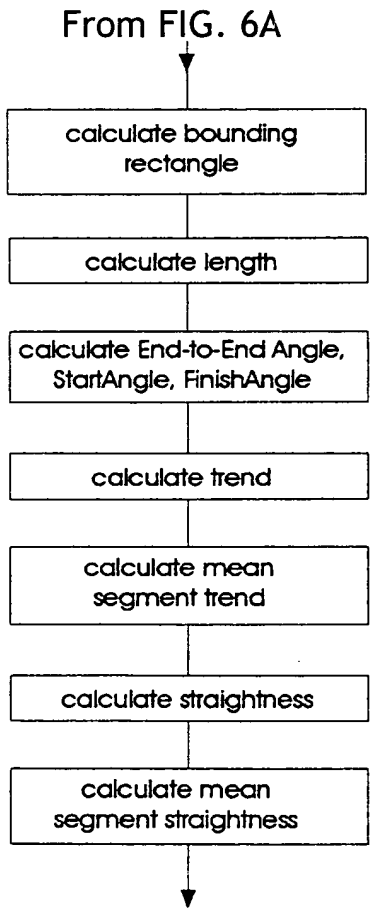
From FIG. 6A
calculate bounding rectangle
calculate length
calculate End-to-End Angle, StartAngle, FinishAngle
calculate trend
calculate mean segment trend
calculate straightness
calculate mean segment straightness

FIG. 6C

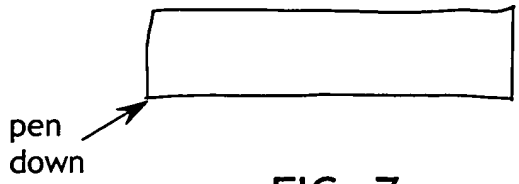

FIG. 7

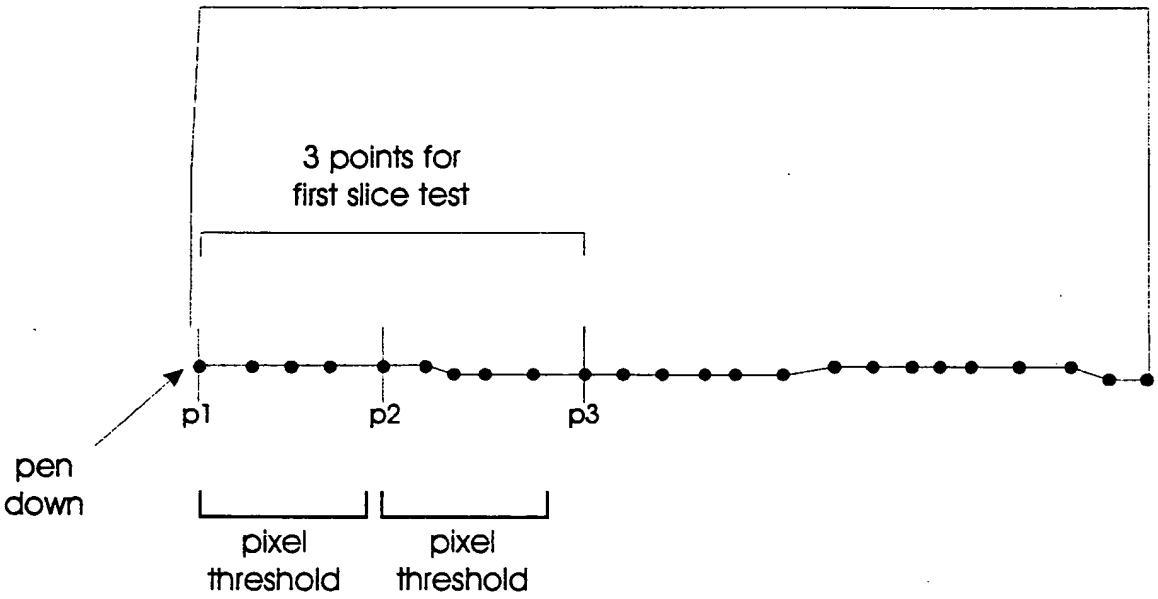

FIG. 8

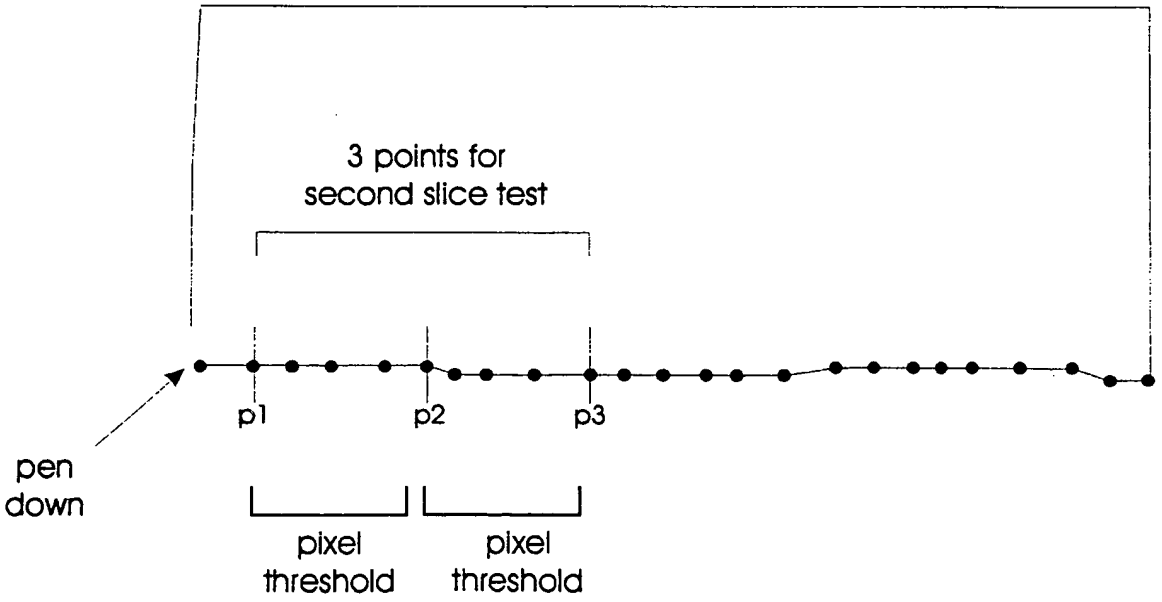

FIG. 9

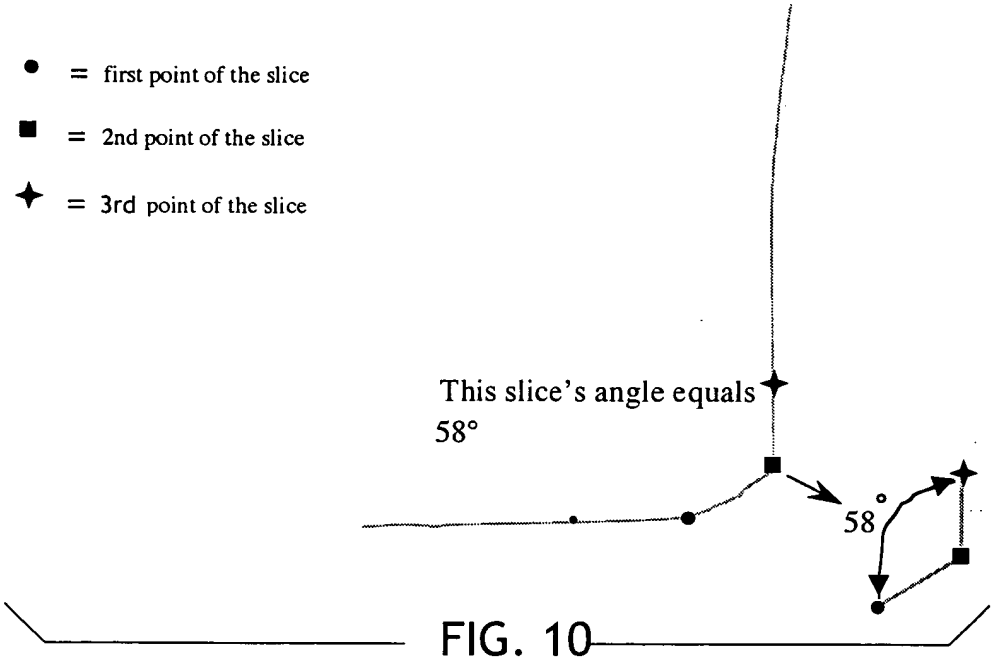
● = first point of the slice
■ = 2nd point of the slice
✦ = 3rd point of the slice
This slice's angle equals
58°
58°

FIG. 10

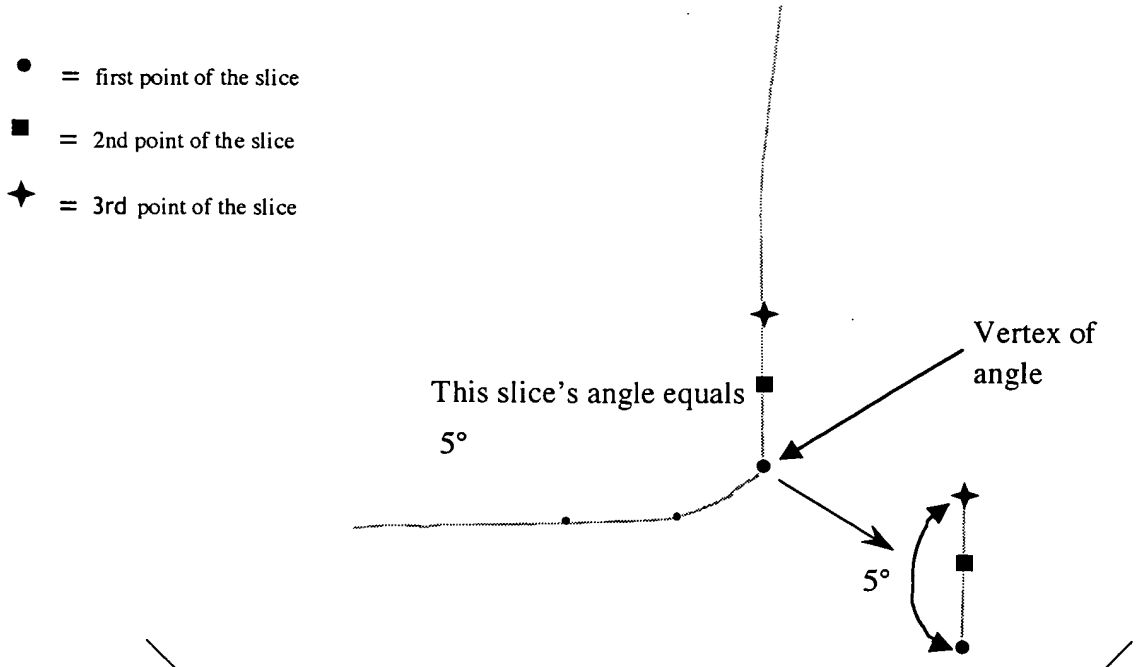
● = first point of the slice
■ = 2nd point of the slice
✦ = 3rd point of the slice
Vertex of angle
This slice's angle equals
5°
5°

FIG. 11

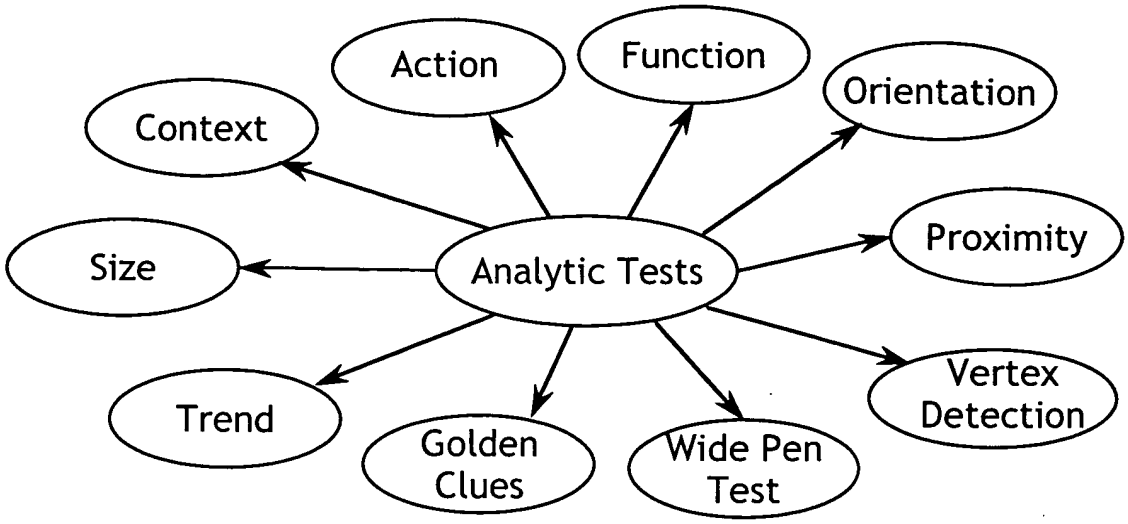

FIG. 12

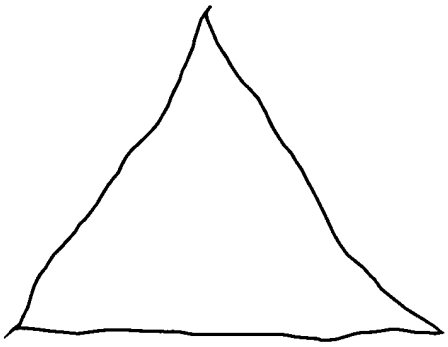

FIG. 13A

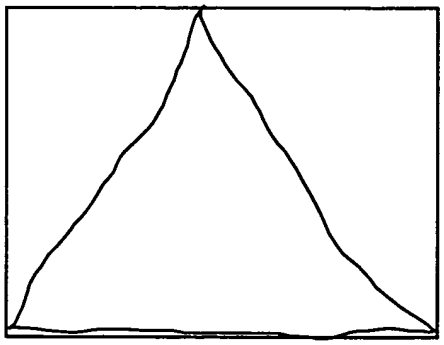

FIG. 13B

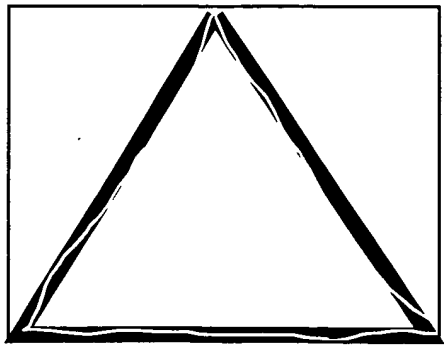

FIG. 13C

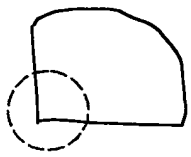

FIG. 14A

FIG. 14B

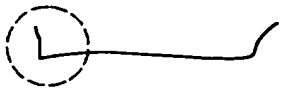

FIG. 14C

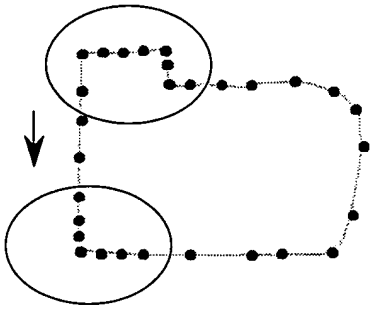

FIG. 15

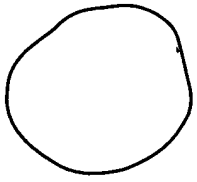

FIG.16

FIG.17

FIG.18

FIG.19

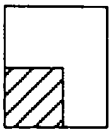

FIG.20

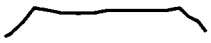

FIG.21A

FIG.21B

FIG.22A

FIG.22B

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Partial List of Objects

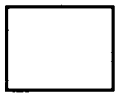
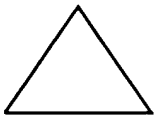
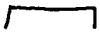
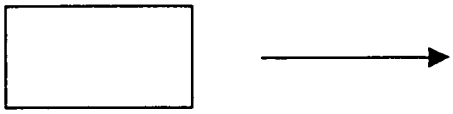
Hand drawn	Recognized Symbol	Definition	Assignment	Action
		Knob	Boost/cut Control for Equalizer	Clockwise=Up CCW=Down
		Switch	Equalizer Control	Switch an EQ In/Out Touch=IN Touch=Out
		Fader Controller	Audio Channel	Control Volume: Up=Louder Down=Softer
		User Defined	User Defined	User Defined
		User Defined	User Defined	User Defined
		Bracket (Combine)		
		Bracket (Chop)	Audio Waveform	Cut Away Waveform
		Folder (DSP process)	User Defined	User Defined

FIG.23



Four band parametric equalizer.

FIG. 24A

= Four band parametric equalizer.

FIG. 24B

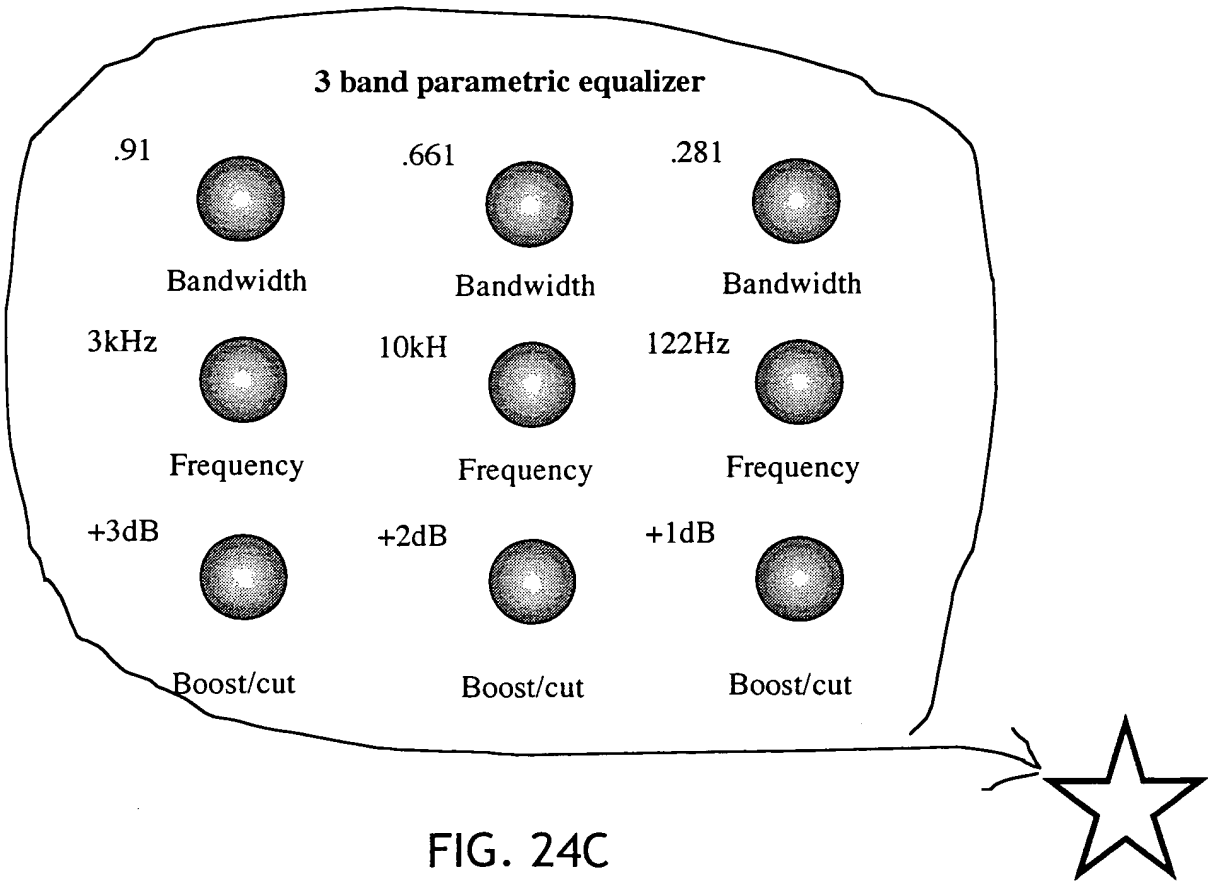


FIG. 24C

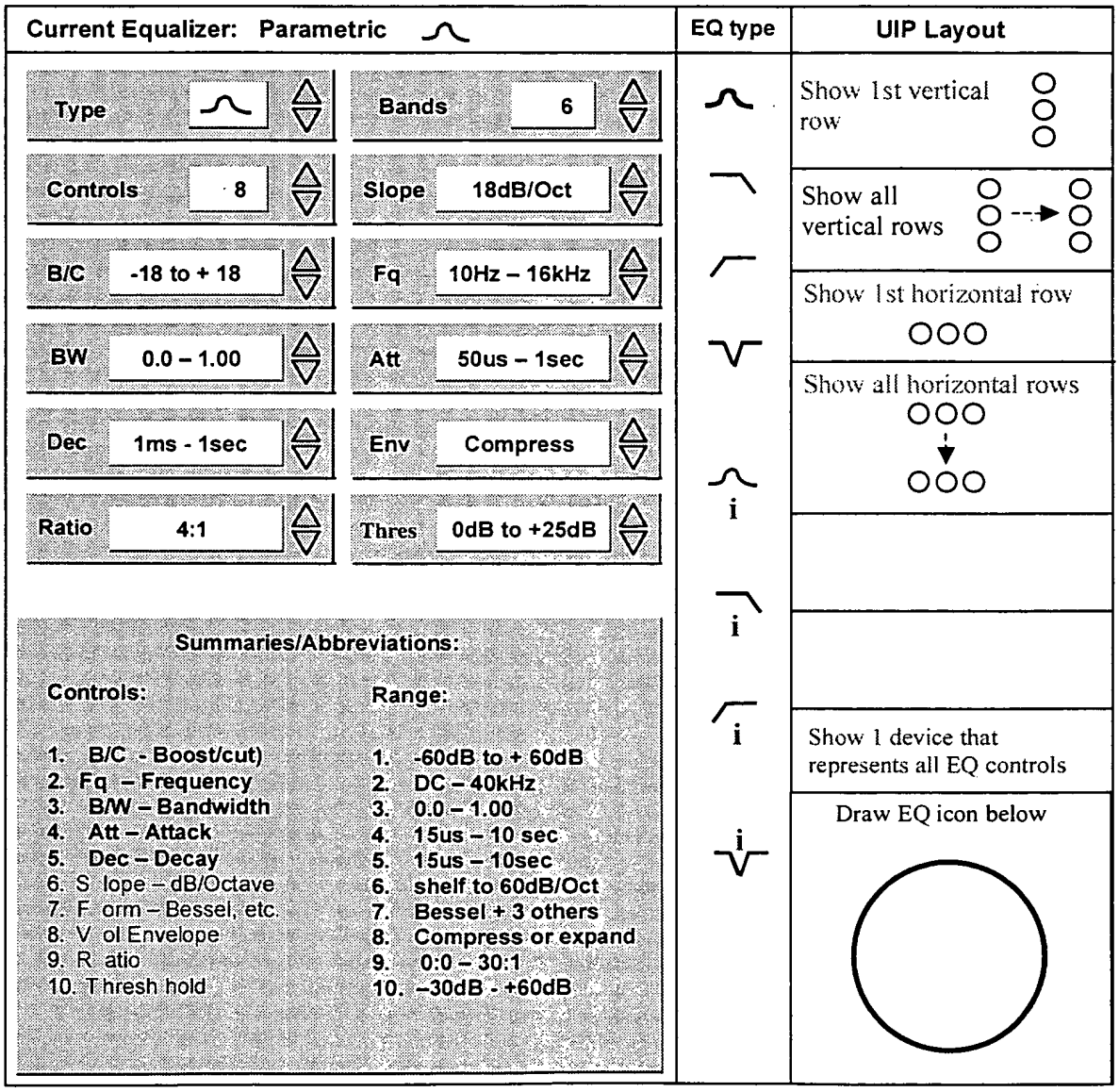

Current Equalizer: Parametric
EQ type
UIP Layout
Type
Bands
6
Controls
8
Slope
18dB/Oct
B/C
-18 to + 18
Fq
10Hz – 16kHz
BW
0.0 – 1.00
Att
50us – 1sec
Dec
1ms - 1sec
Env
Compress
Ratio
4:1
Thres
0dB to +25dB
Summaries/Abbreviations:
Controls:
1. B/C - Boost/cut)
2. Fq – Frequency
3. B/W – Bandwidth
4. Att – Attack
5. Dec – Decay
6. S lope – dB/Octave
7. F orm – Bessel, etc.
8. V ol Envelope
9. R atio
10. T hresh hold
Range:
1. -60dB to + 60dB
2. DC – 40kHz
3. 0.0 – 1.00
4. 15us – 10 sec
5. 15us – 10sec
6. shelf to 60dB/Oct
7. Bessel + 3 others
8. Compress or expand
9. 0:0 – 30:1
10. –30dB - +60dB
Show 1st vertical row
Show all vertical rows
Show 1st horizontal row
Show all horizontal rows
Show 1 device that represents all EQ controls
Draw EQ icon below

FIG. 24D

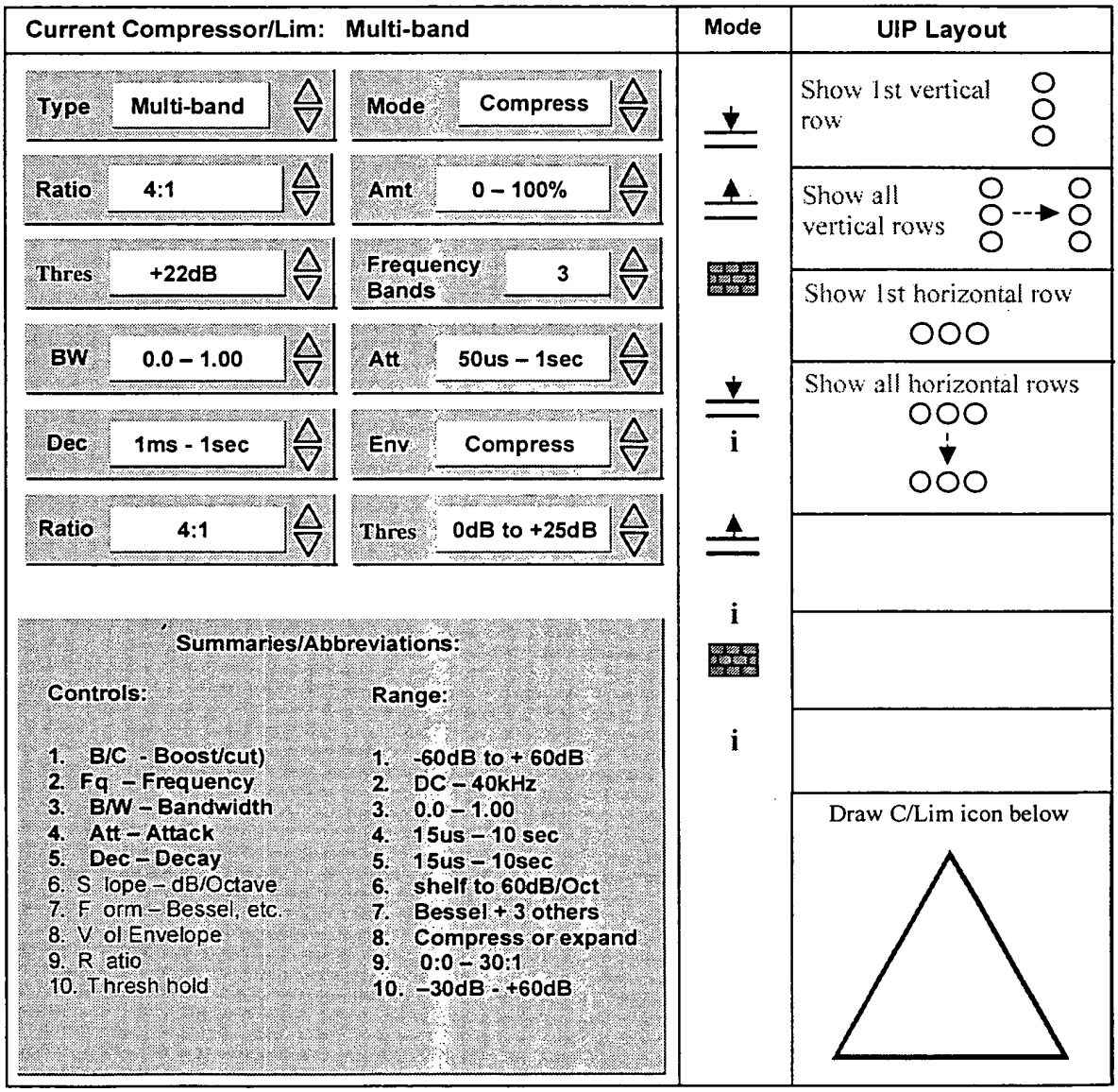
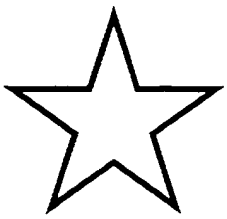

Current Compressor/Lim: Multi-band
Mode
UIP Layout
Type
Multi-band
Mode
Compress
Ratio
4:1
Amt
0 – 100%
Thres
+22dB
Frequency Bands
3
BW
0.0 – 1.00
Att
50us – 1sec
Dec
1ms - 1sec
Env
Compress
Ratio
4:1
Thres
0dB to +25dB
Summaries/Abbreviations:
Controls:
Range:
1. B/C - Boost/cut)
2. Fq – Frequency
3. B/W – Bandwidth
4. Att – Attack
5. Dec – Decay
6. S lope – dB/Octave
7. F orm – Bessel, etc.
8. V ol Envelope
9. R atio
10. Thresh hold
1. -60dB to + 60dB
2. DC – 40kHz
3. 0.0 – 1.00
4. 15us – 10 sec
5. 15us – 10sec
6. shelf to 60dB/Oct
7. Bessel + 3 others
8. Compress or expand
9. 0:0 – 30:1
10. –30dB - +60dB
Show 1st vertical row
Show all vertical rows
Show 1st horizontal row
Show all horizontal rows
Draw C/Lim icon below

FIG. 24E



= 56 console channels

= Stereo compressor

= **Send to**

FIG. 25A

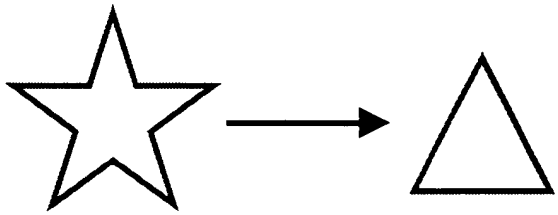


FIG. 25B

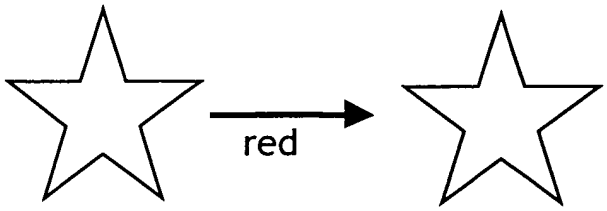


FIG. 25C

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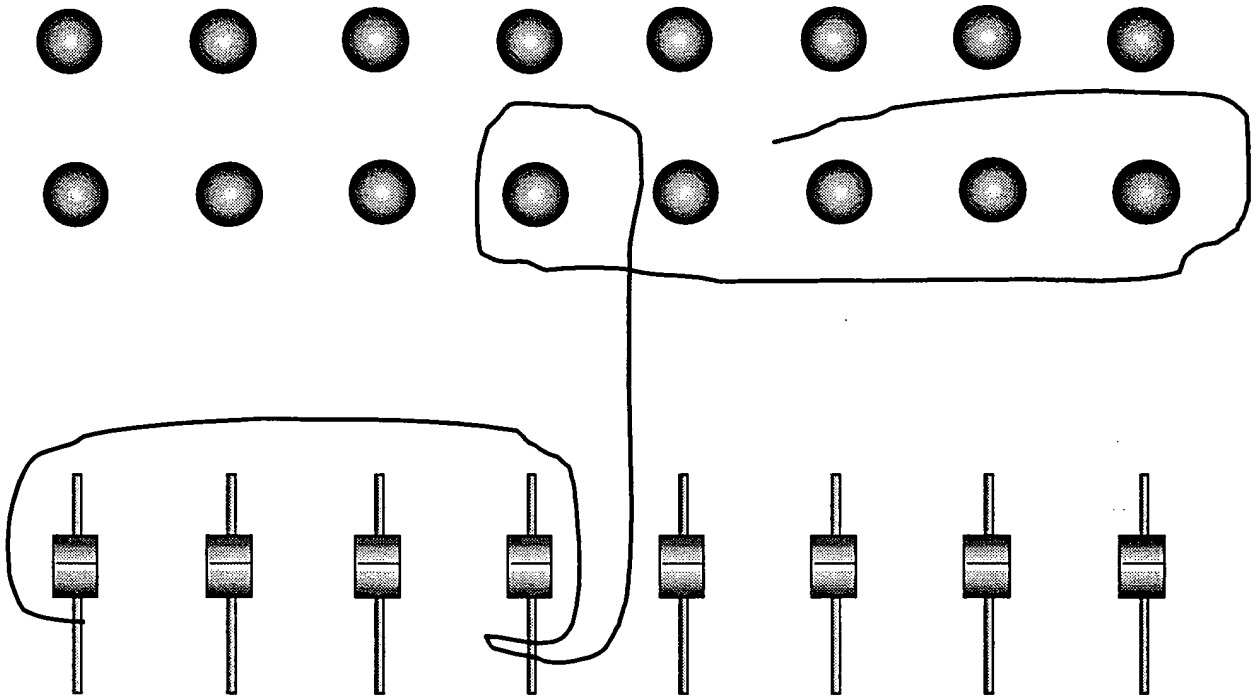

FIG.26A

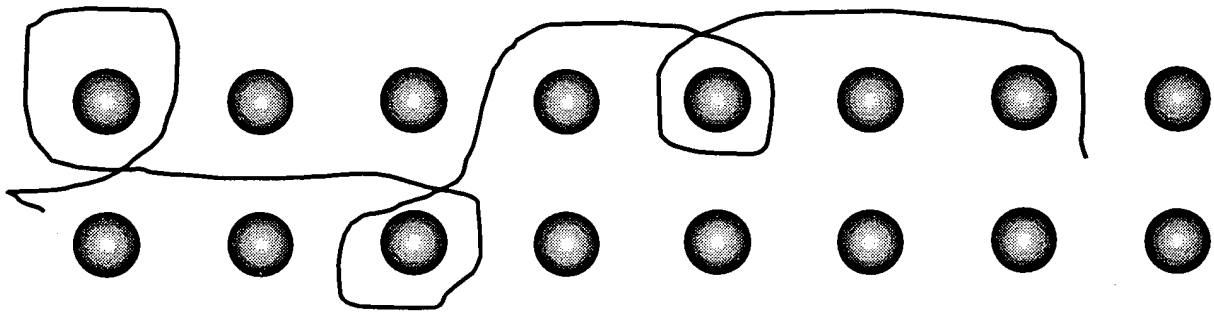

FIG.26B

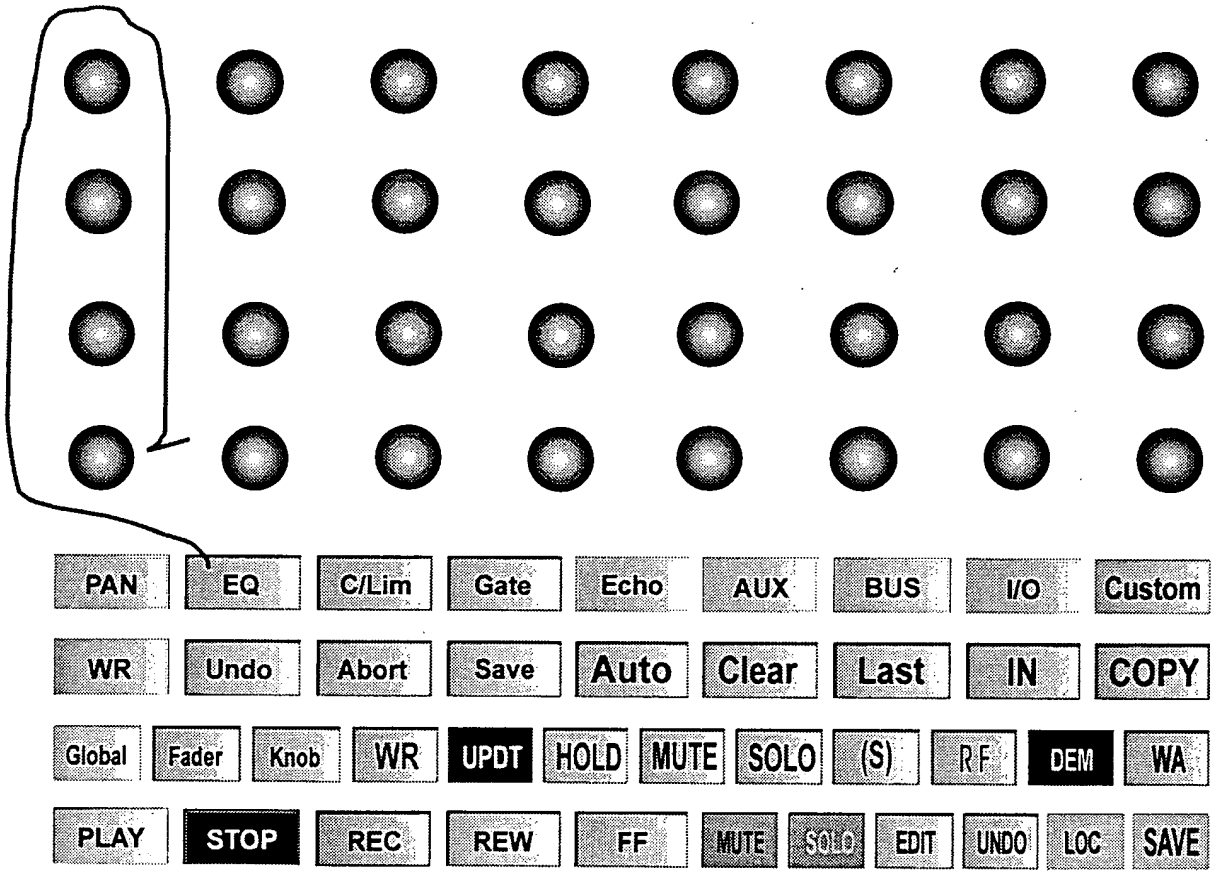
PAN
EQ
C/Lim
Gate
Echo
AUX
BUS
I/O
Custom
WR
Undo
Abort
Save
Auto
Clear
Last
IN
COPY
Global
Fader
Knob
WR
UPDT
HOLD
MUTE
SOLO
(S)
RF
DEM
WA
PLAY
STOP
REC
REW
FF
MUTE
SOLO
EDIT
UNDO
LOC
SAVE

FIG.27

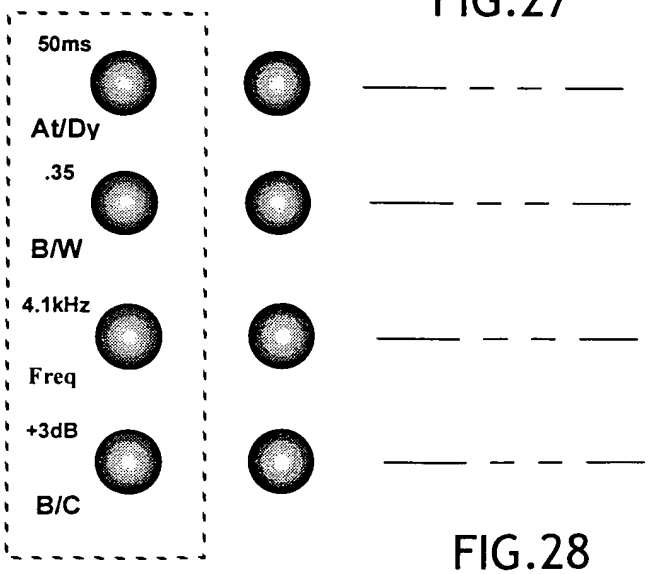
50ms
At/Dy
.35
B/W
4.1kHz
Freq
+3dB
B/C

FIG.28

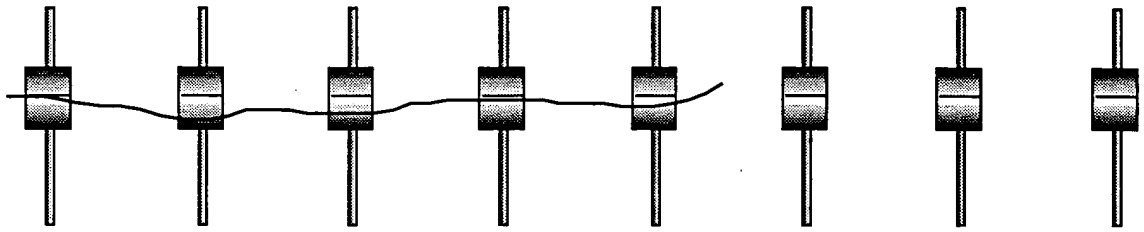

FIG.29

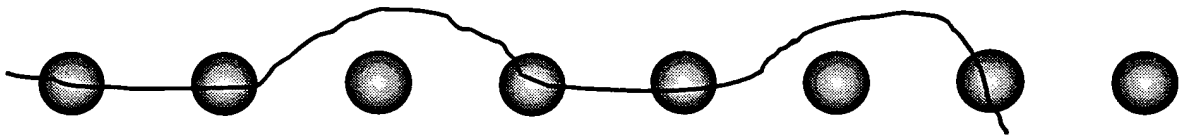

FIG.30

9,9,9,

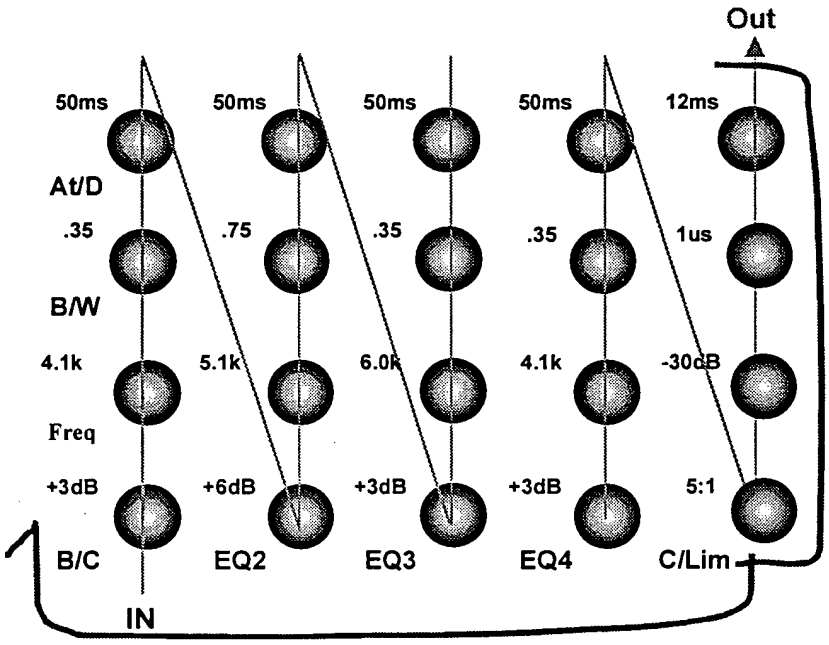
Out
50ms
50ms
50ms
50ms
12ms
At/D
.35
.75
.35
.35
1us
B/W
4.1k
5.1k
6.0k
4.1k
-30dB
Freq
+3dB
+6dB
+3dB
+3dB
5:1
B/C
EQ2
EQ3
EQ4
C/Lim
IN

FIG.31

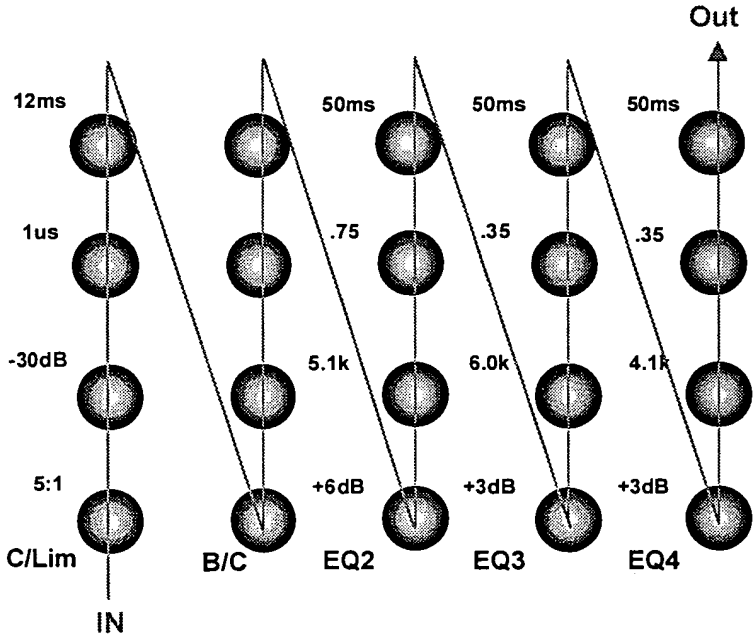
Out
12ms
50ms
50ms
50ms
1us
.75
.35
.35
-30dB
5.1k
6.0k
4.1k
5:1
+6dB
+3dB
+3dB
C/Lim
B/C
EQ2
EQ3
EQ4
IN

FIG.32

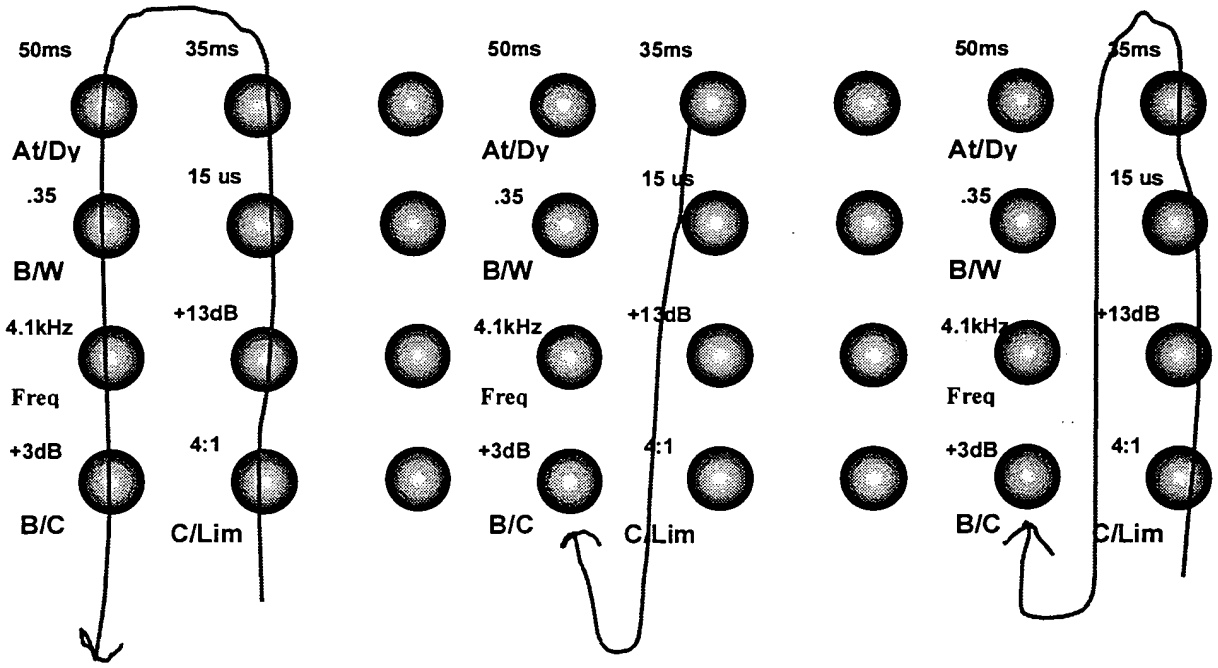

FIG. 33

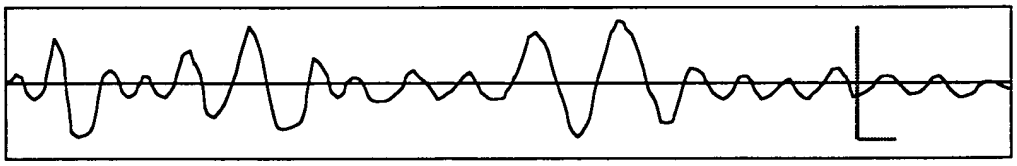

FIG. 34

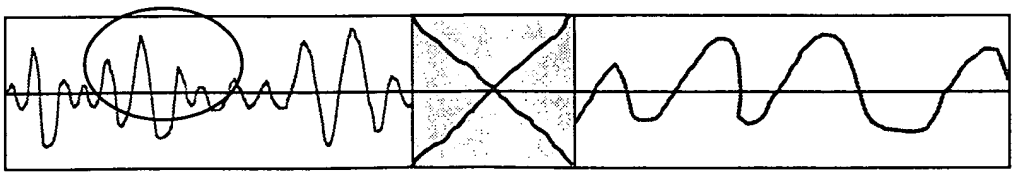

FIG. 35

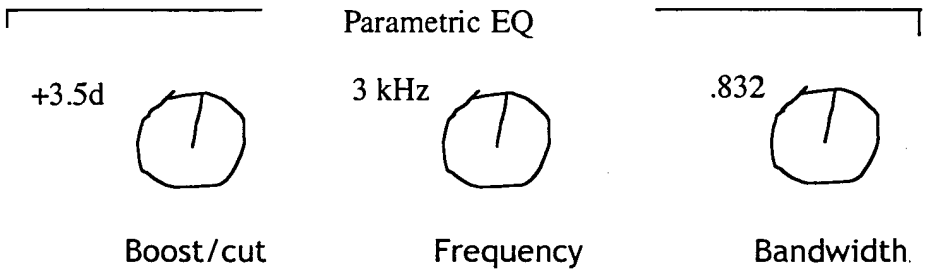

FIG. 36

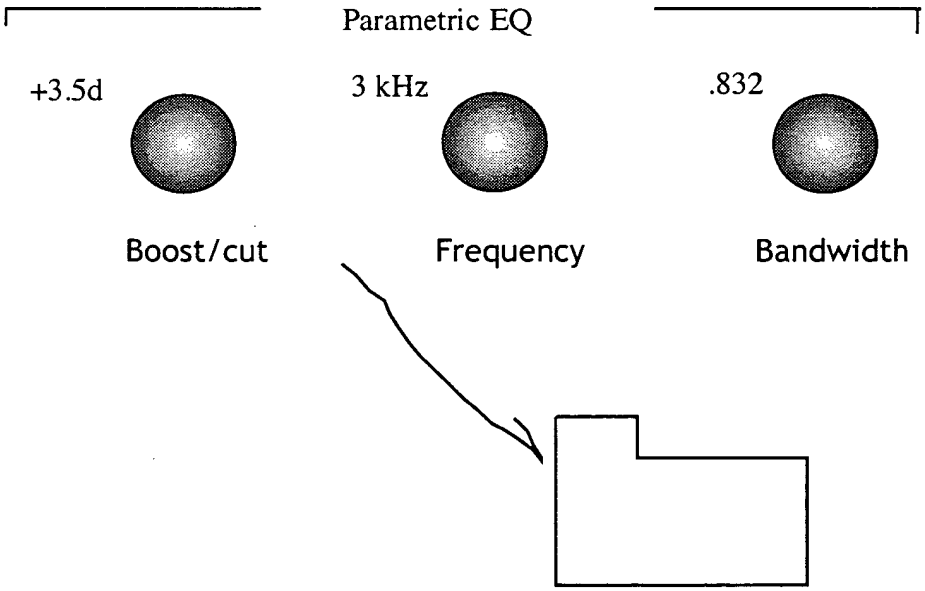

FIG. 37

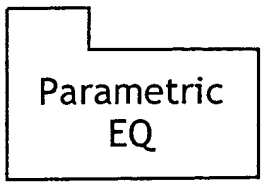

FIG. 38

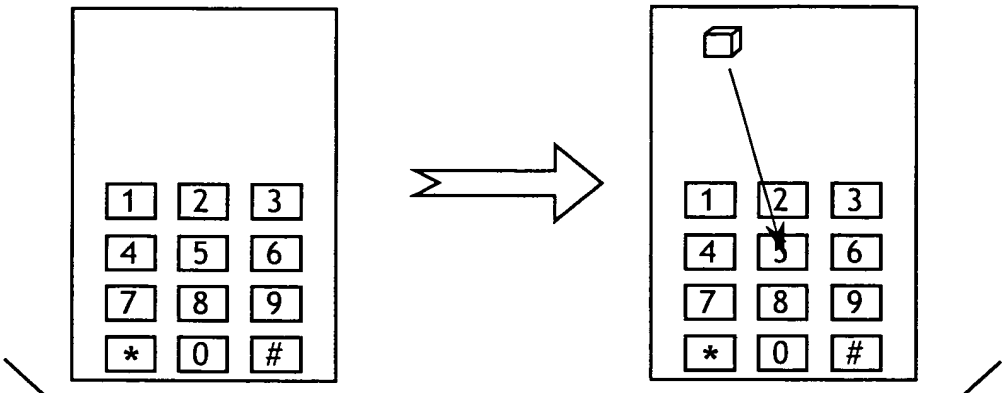

FIG. 39

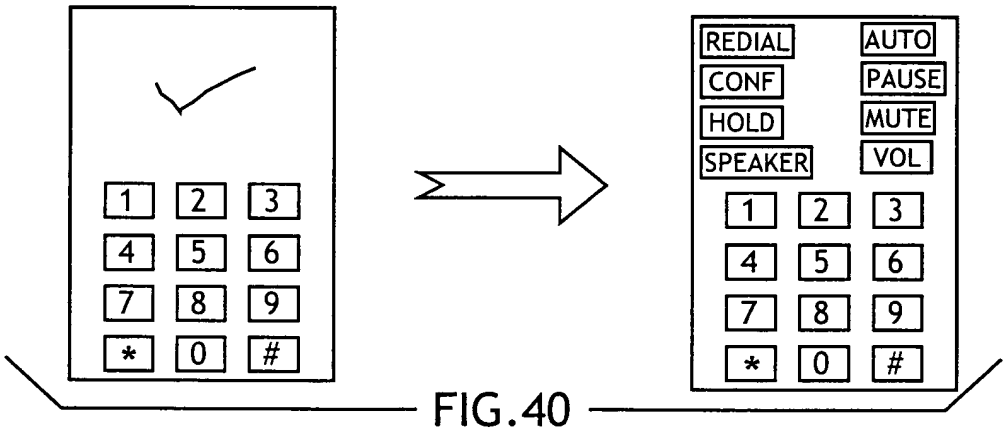

FIG.40

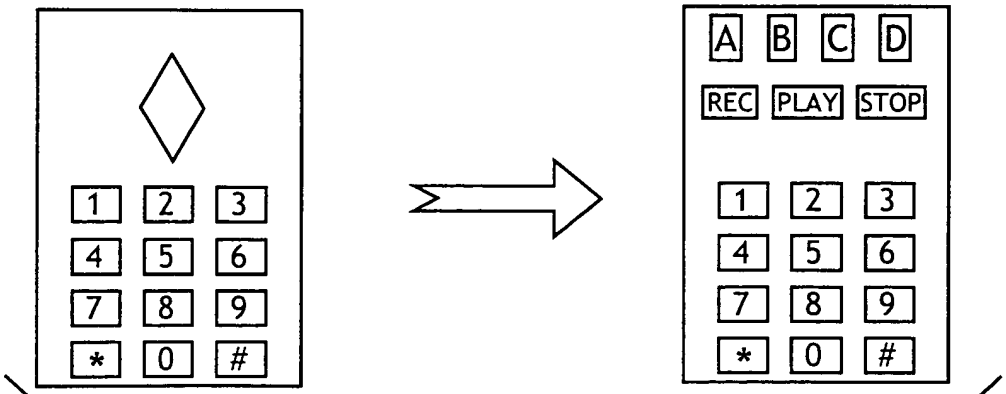

FIG. 41

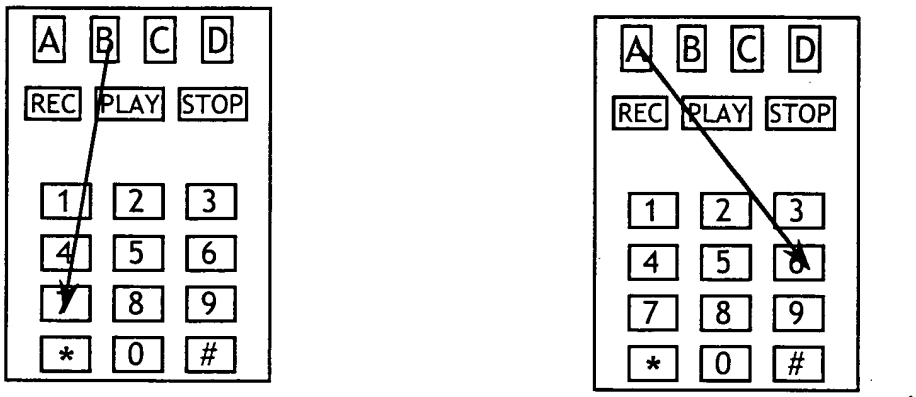
A
B
C
D
REC
PLAY
STOP
1
2
3
4
5
6
7
8
9
*
0
#

FIG. 42

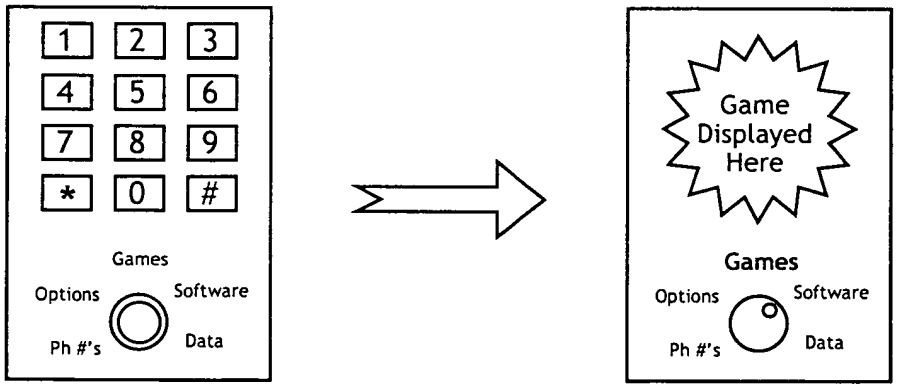
1
2
3
4
5
6
7
8
9
*
0
#
Games
Options
Software
Ph #'s
Data
Game Displayed Here
Games
Options
Software
Ph #'s
Data

FIG. 43

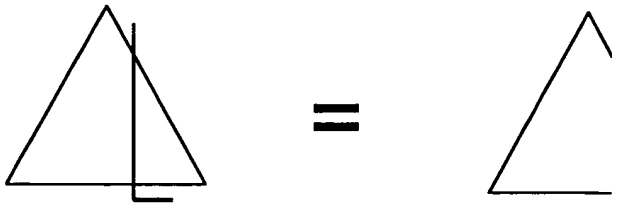

FIG. 44A

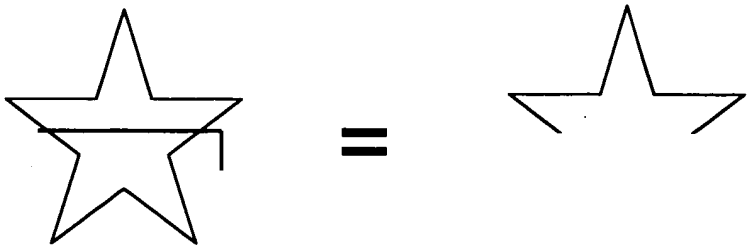

FIG. 44B

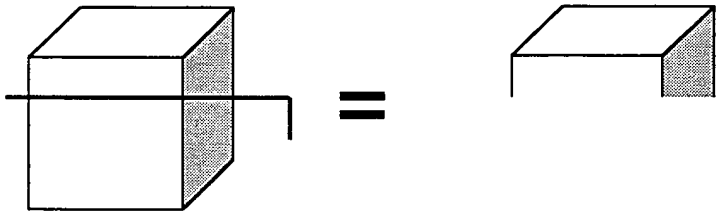

FIG. 44C

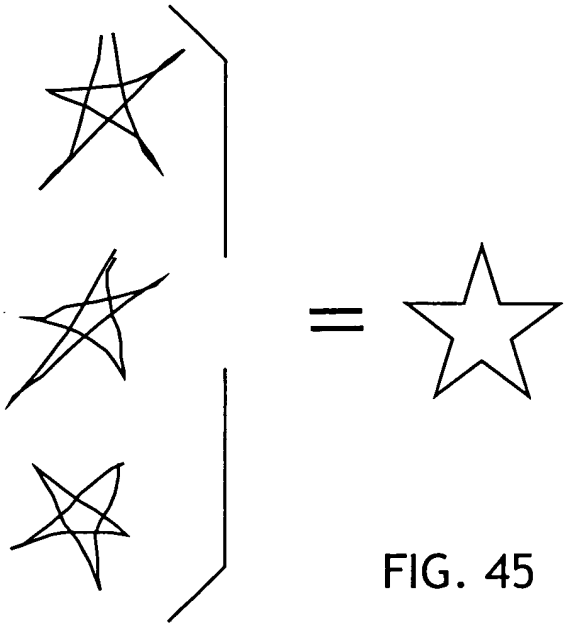

FIG. 45